

Gp 1103

PATENTS



IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

Applicants: Donald R. Huffman  
et al.

Examiner: P. DiMauro

Serial No.: 08/471,890

Art Unit: 1103

Filed: June 7, 1995

Docket: 7913ZY

For: NEW FORM OF CARBON

Dated: March 4, 1997

Assistant Commissioner for Patents  
Washington, D.C. 20231

RECEIVED

MAR 20 1997

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INFORMATION DISCLOSURE STATEMENT

Sir:

In accordance with the duty of disclosure under 37 C.F.R. §§1.56, 1.97 and 1.98, applicants, are making a record of art for consideration by the United States Patent and Trademark Office. The art is listed on the accompanying PTO 1449 form, the contents of which are incorporated by reference. The art is also listed hereinbelow:

U.S. Patent No. 4,132,671

U.S. Patent No. 3,317,354

U.S. Patent No. 4,922,827

U.S. Patent No. 5,132,105

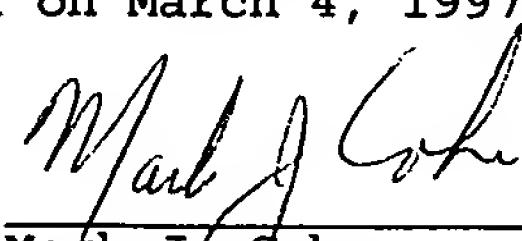
U.S. Patent No. 4,915,977

U.S. Patent No. 4,767,608

CERTIFICATE OF MAILING UNDER 37 C.F.R. 1.8(a)

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Dated: March 4, 1997

  
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U.S. Patent No. 4,435,378

U.S. Patent No. 2,957,756

U.S. Patent No. 4,435,375

U.S. Patent No. 2,635,994

U.S. Patent No. 3,009,783

U.S. Patent No. 3,172,774

U.S. Patent No. 4,167,444

U.S. Patent No. 5,114,477

U.S. Patent No. 5,234,474

UK Patent Appln. No. GB 2 101 983 A

Japanese Patent Appln. No. 2-160696

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The present application is a continuation of USSN 07/580,246, filed August 10, 1990 which is a CIP of USSN 07/575,254, filed on August 30, 1990. Applicants are relying upon each of the above-identified applications for an earlier filing date under 35 U.S.C. §120.

Much of the art listed hereinabove and in the accompanying PTO-1449 form was made of record in at least one of the above applications, particularly USSN 07/580,246. Inasmuch as a copy of much of the art listed hereinabove and in the accompanying PTO 1449 form has already been submitted in one of the above-identified applications, in accordance with 37 C.F.R. §1.98(d), applicants are not forwarding a copy of these references. Accordingly, applicants are enclosing a copy of only that which is newly cited.

Most of the art listed therein is in the English language. However, a few are not in English. In accordance with 37 C.F.R. §1.98(a)(3) a concise explanation of the

relevance, as it is presently understood, is summarized hereinbelow.

Keller, in GIT Fachz Lab., 1987, 31, 618-623 discloses that the irradiation by intense laser light of their graphite foils causes the vaporization of carbon fragments which can be identified by mass spectroscopy. According to the author, the mass spectrum indicates that C<sub>60</sub> possesses special stability. The article confirms the stability of the C<sub>60</sub> since there was practically no reaction of C<sub>60</sub> with, inter alia, gaseous NO, SO<sub>2</sub> and NH<sub>3</sub>.

Anales Astrophysic, "Etude De Poussieres De Fer et De Carbone," J. Lefevre, Tome 30, Annee, 1967, Fasc 4, pp. 731-738, discloses that carbon and ion grains have been produced in argon arc discharge. The article discloses that the grains are associated in chain-like structures.

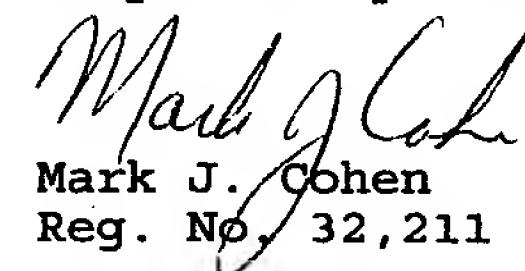
The other two references not in the English language, JO 2221-194A and JO 2160-696, had abstracts in the English language attached thereto. These abstracts attached thereto are incorporated herein by reference.

In addition, the Russian Patent 1,587,000 and West German Patent 2,414,215 are also not in the English language, but these were cited by the U.S. Patent and Trademark Office in U.S.S.N. 08/236,933. Thus, a translation thereof and/or abstract thereof was provided in this application, and the contents thereof are incorporated by reference.

Consideration of the Information Disclosure Statement is respectfully requested since the art provided may be material to the examination of the present application, as defined in 37 C.F.R. §1.56(a).

Inasmuch as this Information Disclosure Statement is being submitted after the issuance of a first Office Action on the merits, but prior to the issuance of a final Official Action or a Notice of Allowance, in accordance with the provisions of 37 C.F.R. §1.97(c), authorization is given to charge applicants' account the fee set forth in 37 C.F.R. §1.17(p).

Respectfully submitted,



Mark J. Cohen  
Reg. No. 32,211

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MJC/djm/bb

Form PTO-1449 (REV. 7-80)		U.S. DEPARTMENT OF COMMERCE PATENT AND TRADEMARK OFFICE		Atty. Docket No. 7913ZY	Serial No. 08/471,890		
<b>LIST OF PRIOR ART CITED BY APPLICANT</b> <i>(Use several sheets if necessary)</i>				Applicant Donald R. Huffman, et al.			
				Filing Date June 7, 1995	Group 1103		
<b>PATENT DOCUMENTS</b>							
EXAMINER INITIAL*		DOCUMENT NUMBER	DATE	NAME	CLASS	SUBCLASS	FILING DATE (if appropriate)
	AA	2,635,994	4/27/50	Tierman			
	AB	2,957,756	10/60	Bacon			
	AC	3,009,783	12/4/59	Sheer, et al.			
	AD	3,172,774	2/28/61	Diefendorf			
	AE	3,317,354	5/2/67	Darrow, et al.			
	AF	4,132,671	2/2/79	Deininger, et al.			
	AG	4,167,444	9/11/79	Schweiger			
	AH	4,435,375	3/6/84	Tamura, et al.			
	AI	4,435,378	3/6/84	Reck, et al.			
	AJ	4,767,608	8/30/88	Matsumoto, et al.			
<b>FOREIGN PATENT DOCUMENTS</b>							
		DOCUMENT NUMBER	DATE	COUNTRY	CLASS	SUBCLASS	TRANSLATION
	AK	GB 2 101 983 A	2/23/83	United Kingdom			YES      NO
	AL	2 160 696	6/20/90	Japan			
	AM	2 221 194	2/21/89	Japan			
	AN	1,587,000	8/23/90	Russia			
	AO	2,414,215	1/8/76	Germany			
<b>OTHER PRIOR ART (Including Author, Title, Date, Pertinent Pages, Etc.)</b>							
	AP	Aihara et al., Spherical Aromaticity of Buckminsterfullerene, <u>Bull. Chem. Soc. Jpn.</u> , 61, 1988, pp. 2657-2659					
	AR	Akhter, et al., The Structure of Hexane Soot II: Extraction Studies, <u>Applied Spectroscopy</u> , 39(1), 1985, pp. 154-167					
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	AV	Bacon, R., <u>J. Applied Physics</u> , 31(2), 1960, pp. 283-290					
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	AA	4,915,977	4/10/90	Okamoto, et al.					
	AB	4,922,827	5/8/90	Remo					
	AC	5,114,477	5/19/92	Mort, et al.					
	AD	5,132,105	7/21/92	Remo					
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	AU	Elser et al., Magnetic Behavior of Icosahedral C <sub>60</sub> , <u>Physical Review of General Physics Third Series</u> , 36(10), 1987, pp. 4579-4585						
	AV	Elser et al., Icosahedral C <sub>60</sub> :An Aromatic Molecule with a Vanishingly Small Ring Current Magnetic Susceptibility, <u>Nature</u> , 325, 1987, pp. 792-794						
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	AP	Feld et al., Carbon Cluster Emission from Polymers Under Kiloelectronvolt and Magaelectronvolt Ion Bombardment, <u>J. Phys. Chem.</u> , 94, 1990, pp. 4595-4599					
	AR	Feng et al., Quantum-Chemical Investigation of Buckminsterfullerene and Related Carbon Clusters (I):The Electronic Structure and UV Spectra of Buckminsterfullerene and Other C <sub>60</sub> Cages, <u>International Journal of Quantum Chemistry</u> , XXXVII, 1990, pp. 509-607					
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	AV	Fowler et al., Systematics of Bonding in Non-Icosahedral Carbon Clusters, <u>Theor. Chim. Acta</u> , 73, 1988, pp. 1-26					
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	AP	Fowler et al., Electric and Magnetic Properties of the Aromatic Sixty-Carbon Cage, <u>Chemical Physical Letters</u> , 165(1), 1990, pp. 79-86						
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